NMCI to IT-21 Fn Interface

November 16, 2005

Mr. Scott Henderson
DRPM NMCI
SPAWAR 055-2
Legacy Environment IPT
scott.henderson@navy.mil
(619) 524-7597 (office)
(619) 606-2797 (cell)

Outline

- Navy Networks
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- Primary Navy NOC Locations
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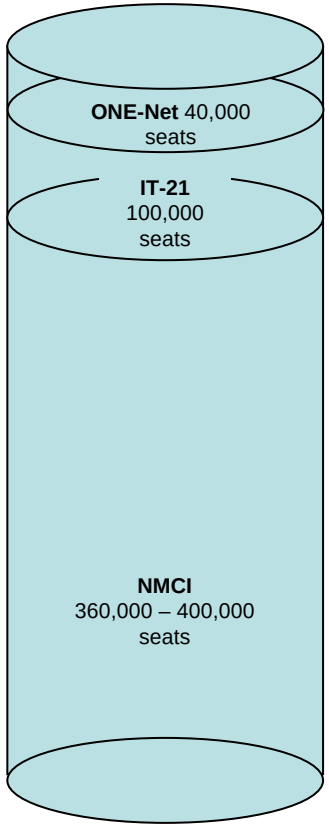
- IT-21 Information Assurance (IA) System Description
- Proposed Implementation Schedule

The Navy Networks



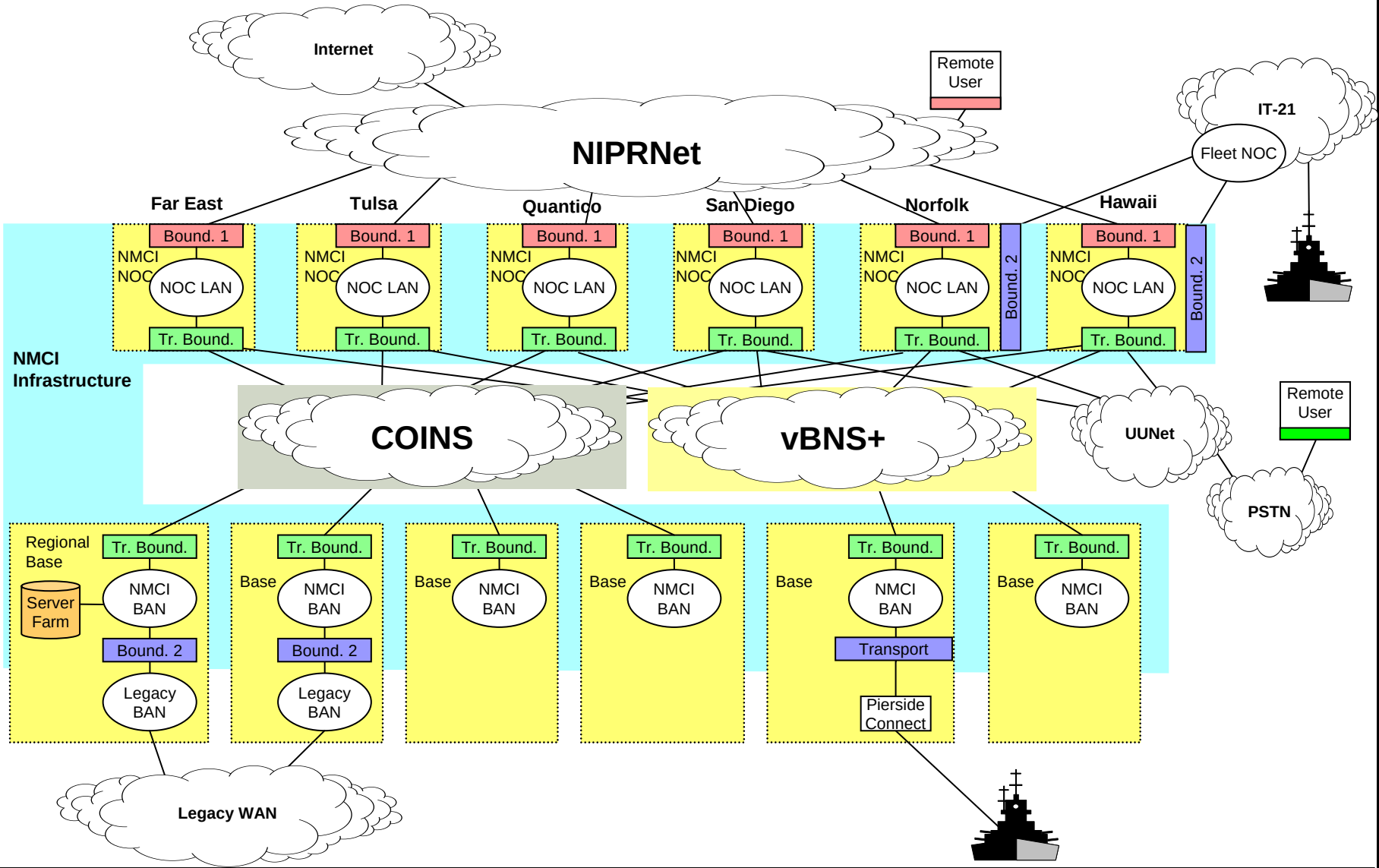
ONE-Net is the OCONUS Navy network comprised of 16 major sites including approximately 30,000 user seats with another 10,000 OCONUS legacy seats estimated.

IT-21 is the ship-based Navy network which supports approximately 300 ships representing 50,000 to 100,000 seats. This number varies greatly due to deployable seats.

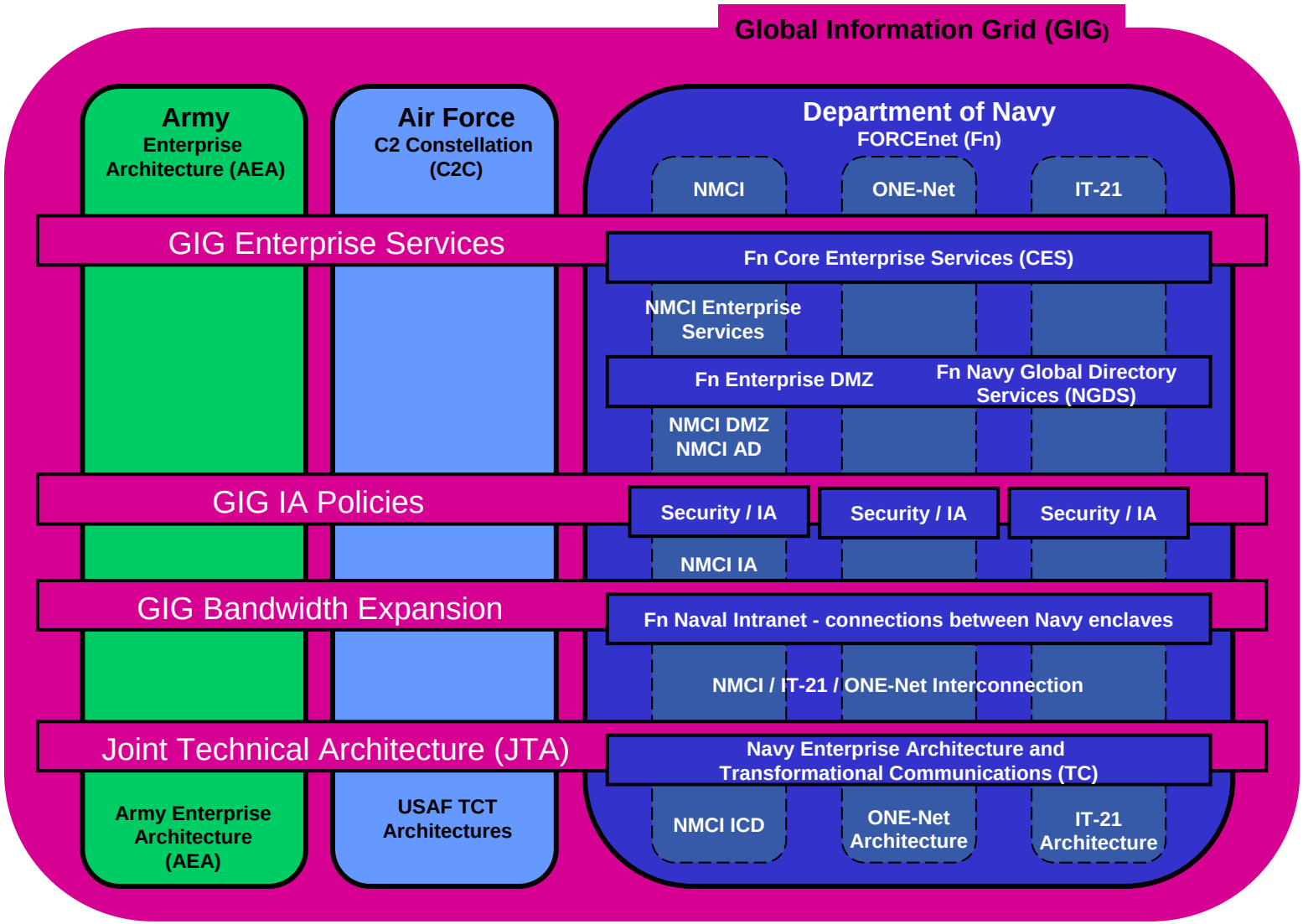
NMCI is the shore-based Navy network comprised of approximately 400 sites and includes 360,000 user seats with common desktop environment and enterprise-wide data services.

Summary of the major Navy Networks

NMCI Network Boundaries: End–to–End Context



Net-Centric Transformational Efforts



NMCI mapping to GIG services

NMCI Desktop

- Standard Office Automation Software
- Print Services
- Software Distribution and Upgrades
- Moves, Adds, and Changes (MACs)
- Embarkable Seats

NMCI User Services

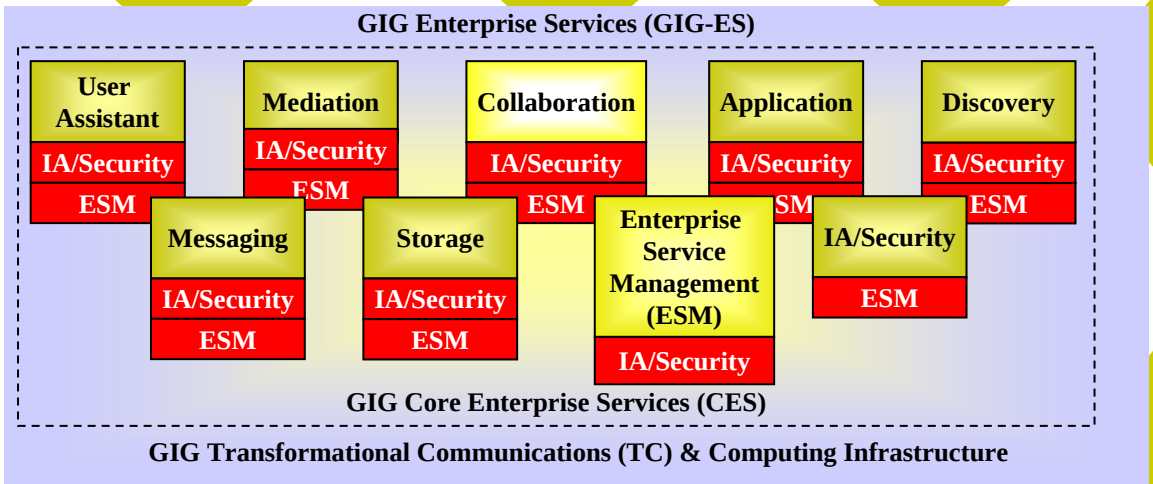
- Data Seats
- Basic User Services
- Help Desk Services
- User Training
- Un-classified Remote Access Service
- Data Reporting
- Search Engine Services

NMCI Applications

- NMCI Applications
- Government (Legacy) Applications
- Multimedia Capabilities Services
- Mainframe Access

NMCI Network

- NMCI Infrastructure Service Delivery Points
- NIPRNET Access
- Internet Access
- Wide Area Network (WAN)
- Local Area Network (LAN)
- Base Area Network (BAN)
- External Networks
- NMCI Enclaves
- Proxy and Caching Service
- Web Access
- NMCI Intranet
- Performance Management
- Communications Services



NMCI Security

- Public Key Infrastructure (PKI)
- Integration
- Information Assurance (IA) Services
- NMCI Security Operational Services
- Computer Network Defense (CND)
- NMCI Security Planning Services
- General DoD and DoN IA Policies
- Critical Government Roles with respect to IA/CND
- Secure Voice Interface
- Classified (DoD) Information Support
- Sensitive Information Support (Non-Classified)
- Privacy and Security Safeguards
- Certification and Accreditation (C&A)

NMCI Messaging

- E-mail Services
- News Group Services
- Collaboration
- Video Seats
- Voice eats
- Mobile Voice Messaging

NMCI Servers

- Storage
- Shared File Services
- Domain Name Server (DNS)
- Directory Services (DS)
- Web Hosting
- Backup Services
- Integration and Testing
- Systems Services

NMCI Management

- Network Management System (NMS) Service
- Operational Support Services (OSS)
- Capacity Planning
- Integrated Configuration Management (CM)
- Interoperability Test Plan
- Transition Planning Support
- Critical Joint Applications

Primary Navy NOC Locations

NMCI NOCs

Hawaii NOC -Ford Island
Norfolk NOC -W143
Quantico NOC (USMC)
San Diego NOC -North Island

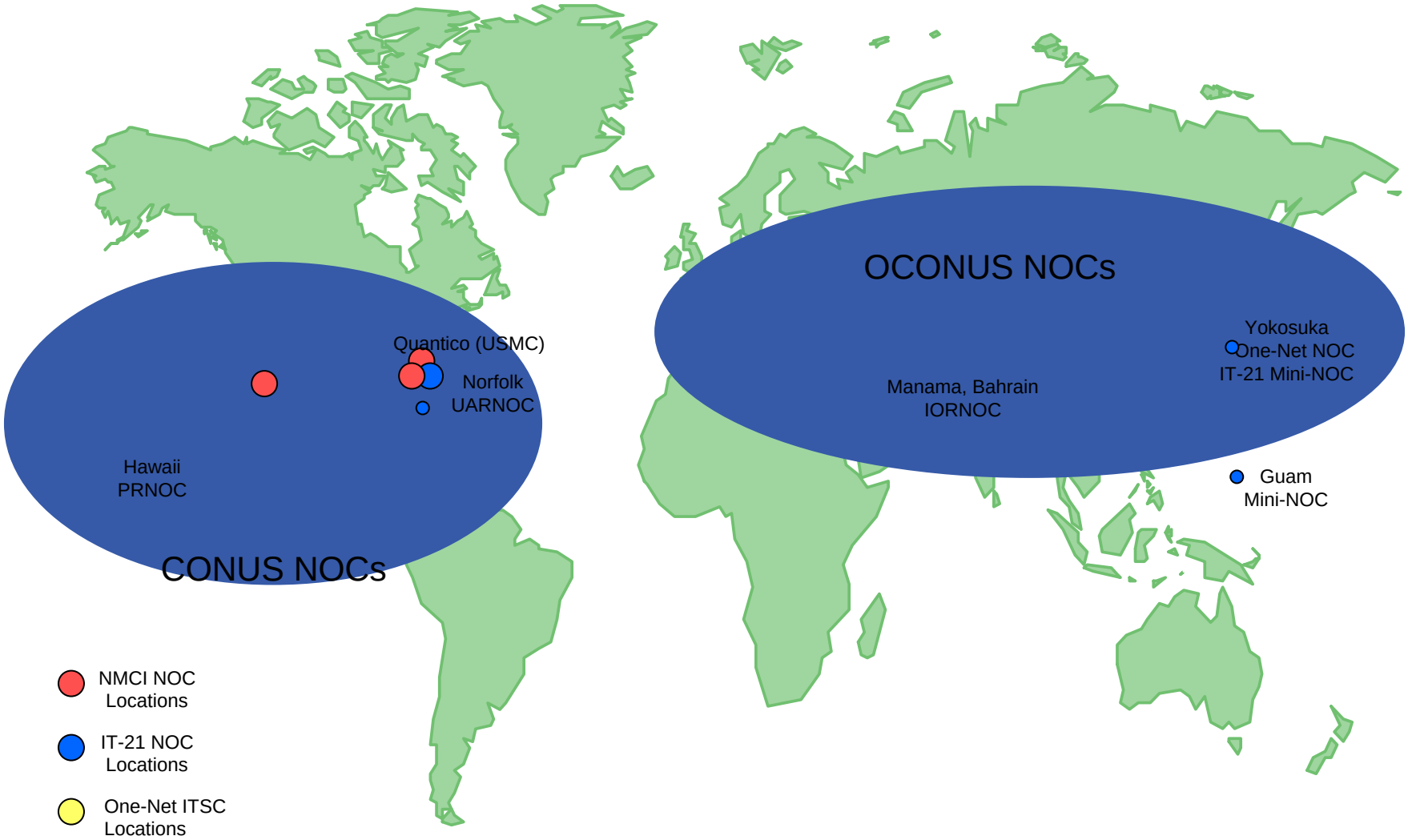
IT21 NOCs

PRNOC -Wahiawa, HI
UARNOC -NH-95 Norfolk, VA
ECRNOC -Naples, Italy
IORNOC -Manama, Bahrain

ONE-Net NOCs

O-NOSC – European Naples, Italy
O-NOSC – Middle East Manama, Bahrain
O-NOSC – Far East, Yokosuka Japan

Primary Navy NOC Locations



The NMCI-to-IT21 interconnection

- **Facilitate Decommission of Legacy networks**
  - To support transition to NMCI (from Legacy) EDS must continue to support Fleet connectivity. Fleet users must access GFE resources residing on NMCI, and visa-versa.
- **Collaboration between Fleet and NMCI.**
  - Future applications. NNWC Force Protection efforts.
- **FORCEnet vision of a single Naval Intranet**
  - Navy Transformational effort to Network Centric Warfare
- **GIG vision of a single DoD network**
  - DoD Transformational effort to Network Centric Warfare
- **NMCI Core Service**
  - Contract requirement / Naval Message 271836Z

Navy Message

- **271836Z JAN 05 COMNAVNETWARCOM NORFOLK VA(uc)**
-
- **NMCI TO IT-21 INTERFACE REQUIREMENTS**

- **TO COMSPAWARSYSCOM SAN DIEGO CA(uc)**
  PEO IT WASHINGTON DC(uc)
  CC NCTAMS LANT NORFOLK VA(uc)
  NCTAMS PAC HONOLULU HI(uc)
  NCTAMS LANT DET HAMPTON ROADS NORFOLK VA(uc)
  COMNAVNETSPAOPSCOM DAHLGREN VA(uc)
  COMNAVNETWARCOM NORFOLK VA(uc)

- **RMKS/1. ONE OF THE CORNERSTONE TENETS OF FORCENET IS THE REQUIREMENT FOR USERS ON NAVY NETWORKS (NMCI, IT-21 AND ONE-NET) TO BE ABLE TO COLLABORATE AND COMMUNICATE ACROSS THESE NETWORKS. EXAMPLES OF APPLICATIONS THAT REQUIRE THIS CAPABILITY ARE COLLABORATION AT SEA (CAS), DEFENSE COLLABORATION TOOL SET (DCTS) AND IRC CHAT.**

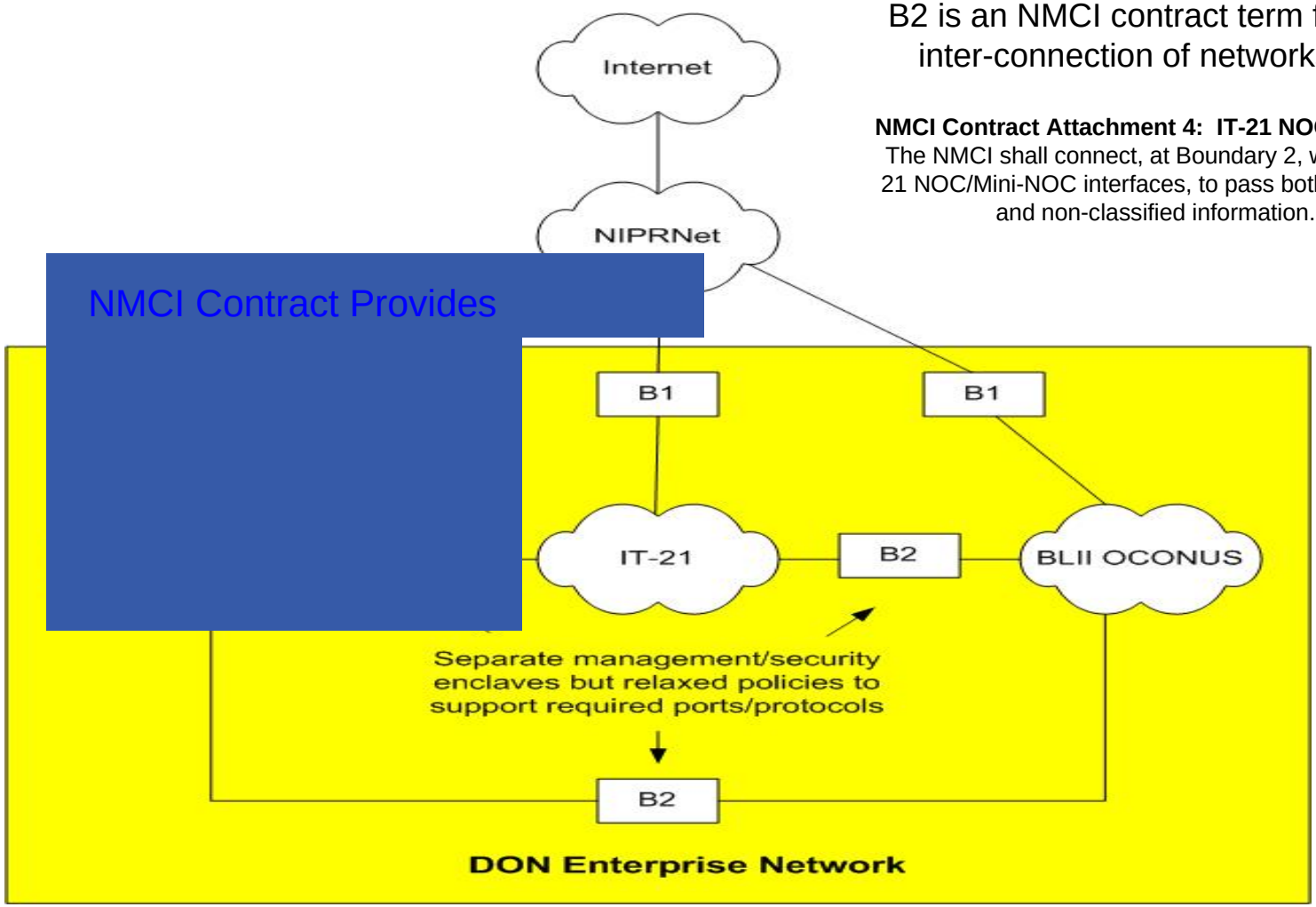
- **2. NETWARCOM REQUESTS THAT PER APPENDIX 4 AND 10 OF THE NMCI CONTRACT (REF A), THE PROVISIONING OF A BOUNDARY 2 CONNECTION BETWEEN NMCI AND THE IT-21 AFLOAT NETWORK BE IMPLEMENTED AS SOON AS POSSIBLE. THIS CONNECTION MUST PROVIDE THE APPROPRIATE REDUNDANCY, RELIABILITY AND AN ACCEPTABLE LEVEL OF INFORMATION ASSURANCE TO FACILITATE NETWORK COMMUNICATIONS BETWEEN ENCLAVES.**

- **3. NETWARCOM IS READY TO PROVIDE ENTERPRISE LEADERSHIP FOR THIS EFFORT.//**

Fn Envisioned Connectivity

B2 is an NMCI contract term for the inter-connection of networks. **

NMCI Contract Attachment 4: IT-21 NOC interface
The NMCI shall connect, at Boundary 2, with the IT-21 NOC/Mini-NOC interfaces, to pass both classified and non-classified information.



** This term in accordance with Chapter 3 of the DoN CIO ITSG and Appendix E of the DoN CIO ITIA.

NMCI contract provides a B1 and B2

IT-21 WAN Connectivity Boundary 1

Attachment 10, Section 6 of the NMCI contract states:

"NMCI is the sole provider of WAN services to the IT-21 NOC for the transport of voice, video, and data. NOC's are located in Norfolk, Virginia, and Oahu, Hawaii within the NMCI service areas. Mini NOCs may exist at regional Fleet concentration areas in San Diego, Jacksonville, and Pacific Northwest within the NMCI service areas. This capability is provided as a part of the NMCI basic service at no additional cost."

B1 project = upgraded IT-21 DISN connection

NMCI-to-IT21 "Fn" Boundary 2

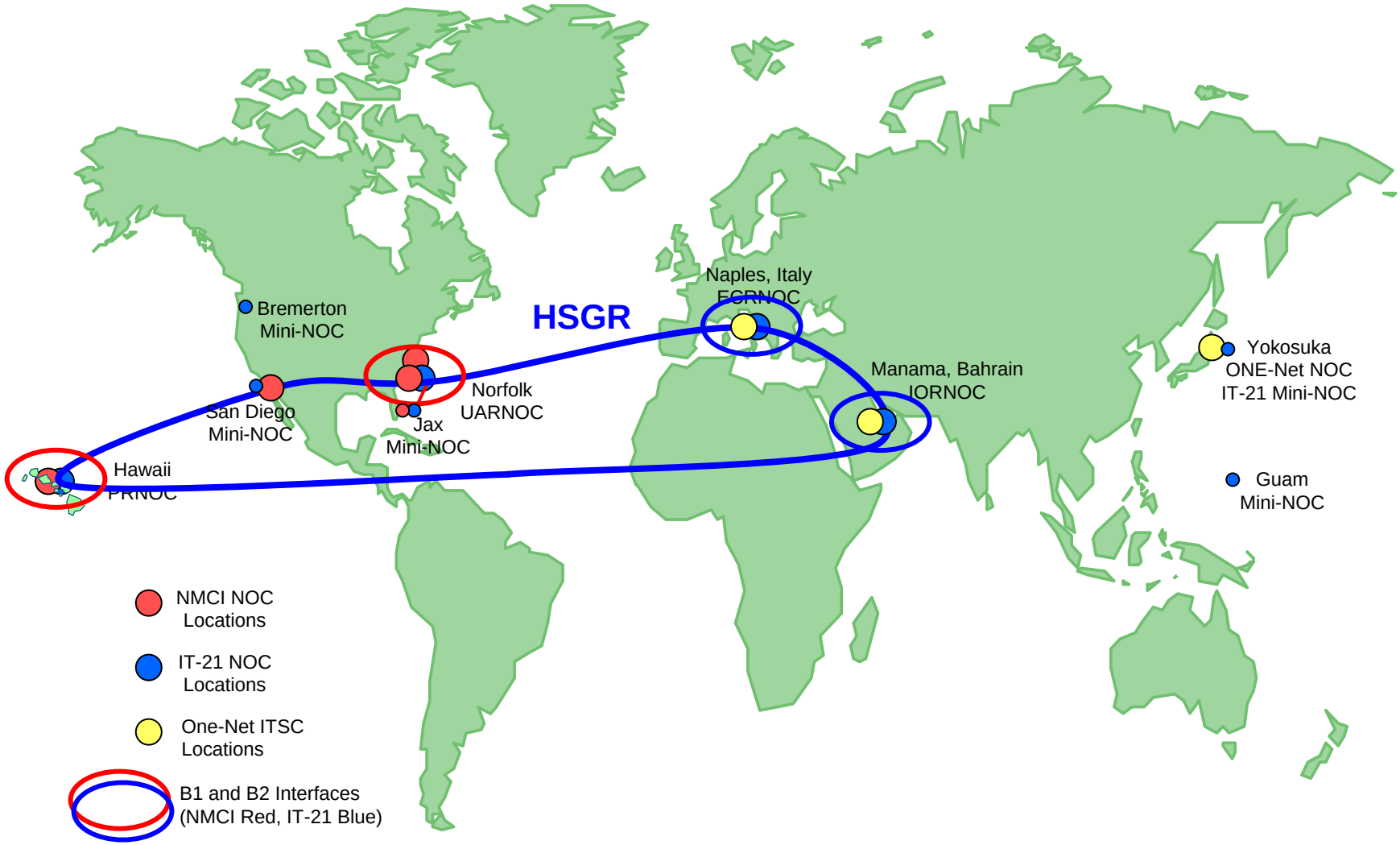
Attachment 4, Section 1.1.2.8.3 of the NMCI contract states:

"The NMCI shall connect, at Boundary 2, with the IT-21 NOC/Mini-NOC interfaces, to pass both classified and non-classified information."

B2 Project = Foundational FORCEnet interconnection

Connect the Navy NOCs

(100 mile high view)



NOC2NOC

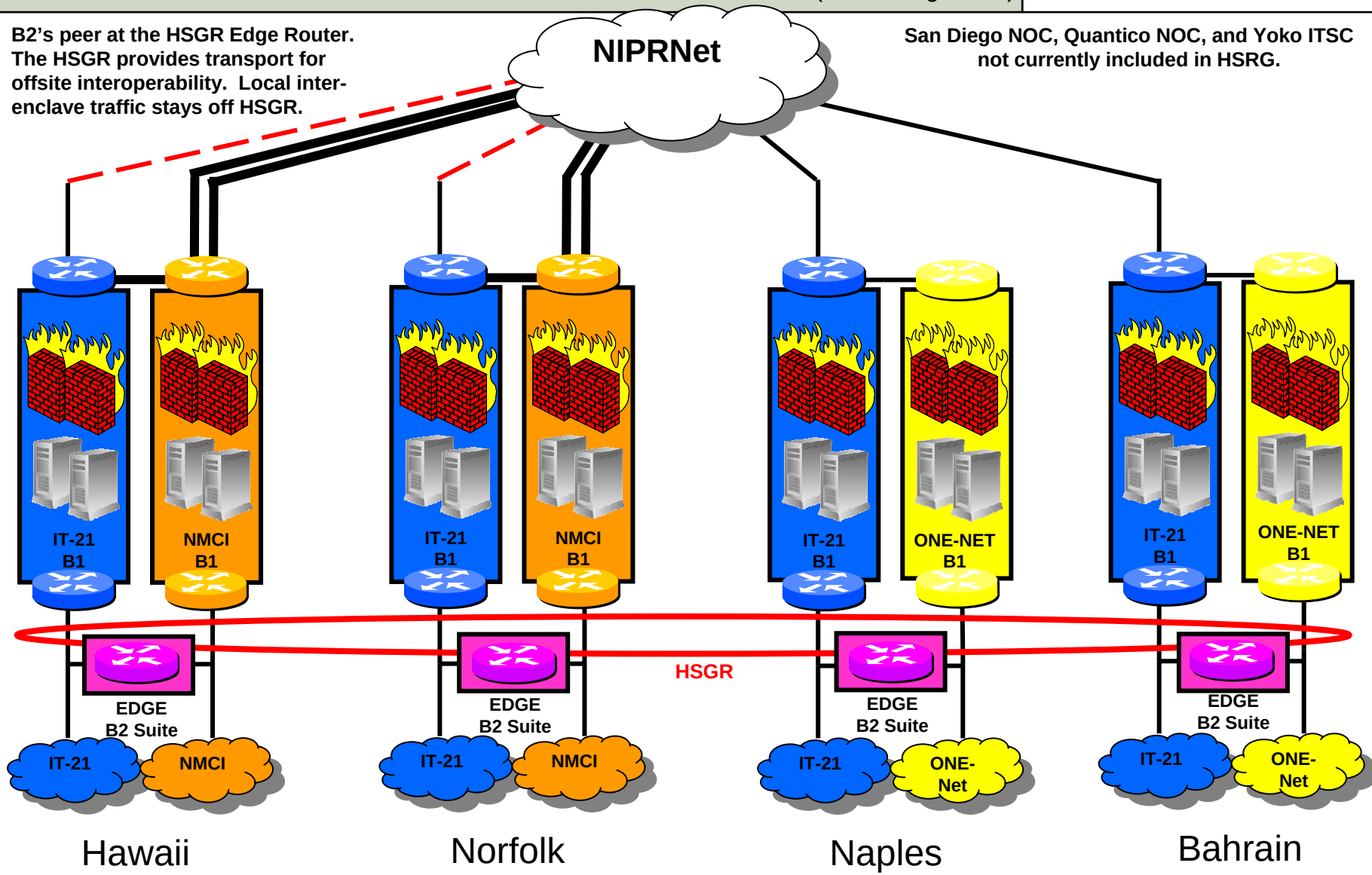
- **The Tactical Switching (previously Shore Infrastructure Modernization or SIM) group has two major efforts; High Speed Global Ring (HSGR) and NOC2NOC.**
  - HSGR is the ATM WAN connectivity of major IT21 NOCs.
  - NOC2NOC is the NOC architecture to permit TCP/IP connectivity between NOCs. This includes routing and security for intra NOC communication and failover/restoral.
- **Tactical Switching approved a NOC2NOC architecture design change to provide an Edge Suite at each NOC to interface with HSGR.**
  - New edge router to interface with HSGR
  - New Firewall suites
- **The Edge Suite is the new preferred location to interface the NMCI B2 interconnection point.**

B2 HSGR Connect: IT21, NMCI and ONE-Net

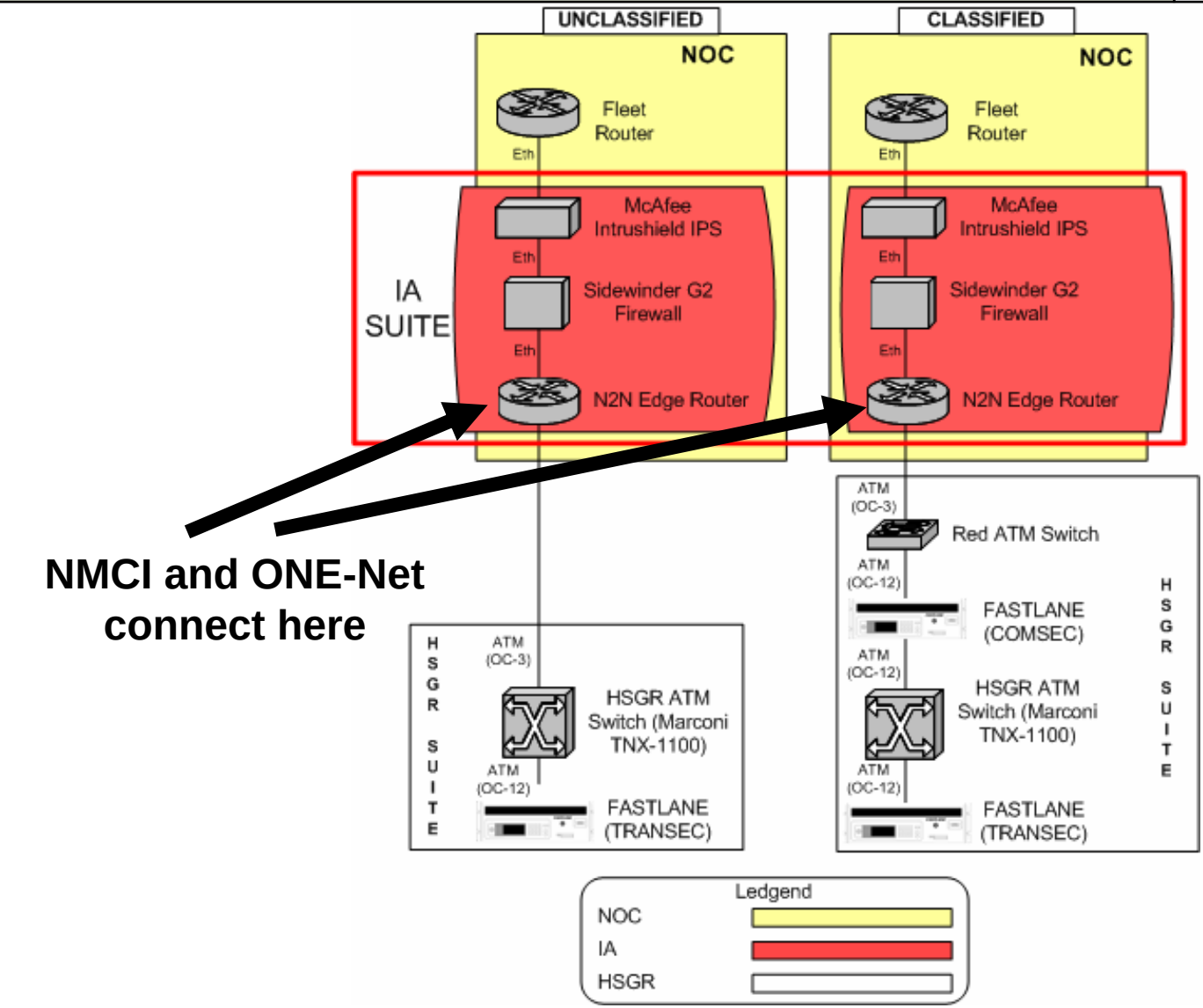
(10 mile high view)

B2's peer at the HSGR Edge Router. The HSGR provides transport for offsite interoperability. Local inter-enclave traffic stays off HSGR.

San Diego NOC, Quantico NOC, and Yoko ITSC not currently included in HSRG.



IT-21 IA System Description



Proposed Implementation Schedule

- **NMCI-to-IT21 Development, Engineering, Certification, and Lab Testing**
  - **NOC2NOC Design Phase:** (Site Survey, BESEP, TTIC, ILS, SSAA, IATO/ATO, FRCB)
    - UARNOC July 05 – Sept 05
    - PRNOC July 05 – Sept 05
    - ECRNOC Sept 05 – Nov 05
    - IORNOC Oct 05 – Dec 05
  - **B1 Engineering** May 05 – Sept 05
    - FRCB Sept 05 – Nov 05
  - **B2 Engineering** Sept 05 – Jan 06 (lab testing into 06)
    - FRCB Sept 05 – Jan 06
- **Installation (Hardware Mock-up, NMCI B1, HSGR interface and B2 install**
  - **B1 install dates:** B1 Implementation and Go-Live (100 Mb/s Bandwidth Upgrade)
    - UARNOC NIPR: Feb 06
    - UARNOC SIPR: Feb 06
    - PRNOC - NIPR: Mar 06
    - PRNOC - SIPR: Mar 06
  - **B2 install dates:** Install of Edge Suite to HSGR and B2 (not connected to NOC)
    - UARNOC NIPR: May 06
    - UARNOC SIPR: May 06
    - PRNOC NIPR: May 06
    - PRNOC SIPR: May 06
  - **NOC2NOC install dates:** Go-Live for NOC2NOC Failover/Restoral testing
    - UARNOC Jun 06
    - PRNOC Jun 06

Questions?